

Amendments to the Claims:

This listing of claims will replace all previous versions and listings of claims in the application:

- 1-16. (canceled)
17. (previously presented) The transgenic vector of claim 70, wherein said constant region gene segment is a human heavy chain constant region gene segment.
18. (original) The transgenic vector of claim 17, wherein said human heavy chain constant region gene segment is a C γ .
19. (original) The transgenic vector of claim 17, comprising about 10-100 V gene segments and at least one human V gene segment, wherein said human V gene segment is placed downstream to said 10-100 V gene segments.
20. (original) The transgenic vector of claim 19, wherein said V gene segments are selected from V gene segments at the 3' V-region of said non-human animal and human V gene segments.
21. (canceled)
22. (previously presented) The transgenic vector of claim 71, wherein said constant region gene segment is a human light chain constant region gene segment.
23. (original) The transgenic vector of claim 22, wherein said human light chain constant region gene segment is C λ or C κ .
24. (original) The transgenic vector of claim 22, comprising about 10-100 V gene segments and at least one human V gene segment, wherein said human V gene segment is placed downstream to said 10-100 V gene segments.

25. (original) The transgenic vector of claim 24, wherein said V gene segments are selected from V gene segments at the 3' V-region of said non-human animal and human V gene segments.

26. (original) The transgenic vector of claim 22, wherein said human V gene segment is placed immediately 5' to a J gene segment in a rearranged configuration.

27. (currently amended) A method of making a transgenic vector comprising a humanized Ig locus capable of producing a functional repertoire of humanized antibodies in a non-human animal generating antibody diversity primarily by gene conversion and/or hypermutation, comprising:

- (i) obtaining a DNA fragment comprising an Ig locus or a portion thereof from said non-human animal, which comprises at least one V gene segment, at least one J gene segment and at least one constant region gene segment, and regulatory non-coding sequences; and
- (ii) integrating at least one functional human Ig V gene segment encoding a human V region amino acid sequence, into said DNA fragment of step (i) to produce a humanized Ig locus,

wherein the said human Ig V gene segment is flanked segments present are separated only by non-coding, non-human sequences, and at least one of the functional V gene segments encoding a human V region amino acid sequence is placed downstream of the other V gene segments, and

wherein said Ig gene segments are juxtaposed in an unrearranged, partially rearranged or fully rearranged configuration, operably as to permit gene rearrangement and gene conversion of said humanized Ig locus and the production of a functional repertoire of humanized antibodies with V region amino acid sequences encoded by more than one V region gene segment, in said non-human animal.

28. (original) The method of claim 27, wherein the integration of said human Ig gene segment is achieved by homologous recombination, thereby replacing an Ig gene segment in said Ig locus or said portion thereof from said non-human animal.

29. (original) The method of claim 28, wherein the homologous recombination is achieved in a bacterial cell, a yeast cell, or a non-human animal cell.

30. (original) The method of claim 28, wherein the human Ig gene segment is provided on a recombination vector, and is linked to a 5' nucleotide sequence and a 3' nucleotide sequence which are homologous to the 5' and 3' flanking sequences of said Ig gene segment from the non-human animal.

31-66. (canceled)

67. (currently amended) A transgenic vector comprising a humanized Ig locus, wherein

(a) ~~said humanized Ig locus is derived from an Ig locus or a portion of an Ig locus of a non-human animal which generates antibody diversity primarily by gene conversion and/or hypermutation, wherein regulatory sequences of said humanized Ig locus are identical to regulatory sequences of an Ig locus of a non-human animal which generates antibody diversity primarily by gene conversion and/or hypermutation, wherein said humanized Ig locus comprises two or more~~ multiple Ig gene segments, including multiple variable (V) gene segments, and multiple J gene segments, and one or more constant region gene segments, wherein

(b) at least one of said gene segments is a functional V gene segment encoding a human V region amino acid sequence, ~~human gene segment integrated into said Ig locus or portion of an Ig locus of said non-human animal, flanked and~~

(c) said V gene segments are separated only by non-coding, non-human sequences, ~~wherein~~

(d) at least one of said functional V gene segments encoding a human V region amino acid sequence is placed downstream of the other V gene segments, and

(e) said Ig gene segments are juxtaposed in an unrearranged, partially rearranged or fully rearranged configuration, and

wherein, as a result of structural features (a)-(e), said humanized Ig locus is capable of undergoing gene conversion and producing a repertoire of humanized immunoglobulins with V region amino acid sequences encoded by segments of more than one V region gene, in said non-human animal.

68. (canceled)

69. (previously presented) The transgenic vector of claim 67, wherein said non-human animal is rabbit, pig, chicken, sheep or cow.

70. (currently amended) The transgenic vector of claim 67, wherein said humanized Ig locus is a heavy chain locus and comprises at least two human V gene segments, at least one D gene segment, at least two J gene segments and ~~at least one~~ or more constant region ~~segment~~ segments.

71. (currently amended) The transgenic vector of claim 67, wherein said humanized Ig locus is a light chain locus and comprises at least two V gene segments, at least two J gene segments, and ~~at least one~~ or more constant region gene ~~segment~~ segments.

72. (previously presented) The transgenic vector of claim 70, wherein the non-human animal is a rabbit, and at least one of said non-coding sequences comprises the sequence of SEQ ID NO: 10.

73-76. (canceled)